Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of claims:

1. (original): A device for assessing a subject's ability to utilize support surface inputs from one of the subject's first and second supporting legs, such device comprising:

means for measuring at least one quantity related to the subject's displacement from a standing equilibrium position;

a fixed support surface on which the subject's first leg rests;

a movable support surface, on which the subject's second leg rests, the movable support surface being rotatable about a horizontal axis;

actuator means for rotating the movable support surface;

control means for receiving the quantity related to the subject's displacement from a standing equilibrium position and for controlling the actuator means so that the actuator means causes the movable support surface to rotate on a continuous basis in functional relation to the measured quantity, so that the movable support surface has a sway-reference gain greater than zero; and

means for measuring the subject's ability to maintain the standing equilibrium position.

2. (original): A device for determining the extent of a subject's independent ability to maintain, by coordination of muscular responses to sensory information, a position in equilibrium, such device comprising:

perturbing means for disturbing the subject's position in equilibrium, wherein the perturbing means include a handle for being grasped by the subject;

sensing means for sensing the degree of contractile activity in a plurality of muscles as the subject attempts to restore equilibrium;

analyzing means for determining at least one of the order or distributional relationship of such contractile activity.

3. (original): A device for determining the extent of a subject's independent ability to maintain, by coordination of muscular responses to sensory information, a position in equilibrium, such device comprising:

perturbing means for disturbing the subject's position in equilibrium, wherein the perturbing means include a handle for being grasped by the subject and movable along a horizontal axis;

sensing means for sensing the degree of contractile activity in a plurality of muscles as the subject attempts to restore equilibrium;

analyzing means for determining at least one of the order or distributional relationship of such contractile activity.

4. (once amended): A device for determining the extent of a subject's independent ability to maintain, by coordination of muscular responses to sensory information, a position in equilibrium, such device comprising:

perturbing means for disturbing the subject's position in equilibrium, wherein the perturbing means includes [a] support means, each support means independently movable with respect to one another and linearly along a horizontal axis, for supporting a subject in equilibrium;

sensing means for sensing the degree of contractile activity in a plurality of muscles as the subject attempts to restore equilibrium; and

analyzing means for determining at least one of the order or distributional relationship of such contractile activity.

5. (original): A device according to claim 3, wherein the analyzing means includes computing means for computing a quantity over time related to the levels of contractile activity in selected muscles.

6. (once amended): A device [according to claim 4] for determining the extent of a subject's

independent ability to maintain, by coordination of muscular responses to sensory information, a position in equilibrium, such device comprising:

perturbing means for disturbing the subject's position in equilibrium, wherein the perturbing means includes a support means, independently movable linearly along a horizontal axis, for supporting a subject in equilibrium;

sensing means for sensing the degree of contractile activity in a plurality of muscles as the subject attempts to restore equilibrium; and

analyzing means for determining at least one of the order or distributional relationship of such contractile activity, wherein the analyzing means includes computing means for computing a quantity over time related to the levels of contractile activity in selected muscles.

7. (original): A device according to claim 2, wherein the analyzing means includes computing means for computing a quantity over time related to the levels of contractile activity in selected muscles.

8. (original): A method for assessing a subject's ability to utilize support surface inputs from one of the subject's first and second supporting legs, such method comprising:

A. providing two support surfaces, and standing the subject on the support surface, so that each of the two support surfaces has only one leg resting thereon;

B. measuring at least one quantity related to the subject's displacement from the standing equilibrium position;

C. fixing the support surface on which the first leg rests, so that it does not move;

D. rotating about a horizontal axis on a continuous basis the other support surface, on which the subject's second leg rests, in functional relation to the measured quantity, so that the support surface that is moving has a sway-reference gain greater than zero; and

E. measuring the subject's ability to maintain the standing equilibrium position.

9. (original): A device for assessing a subject's ability to utilize support surface inputs from one of the subject's first and second supporting legs, such method comprising:

a fixed support surface on which the subject's first leg rests;

a movable support surface, on which the subject's second leg rests, the movable support surface being rotatable about a horizontal axis;

a compliant element for restraining the rotational motion, so that the movable support surface moves on a continuous basis in functional relation to the subject's displacement from a standing equilibrium position, so that the movable support surface has a sway-reference gain greater than zero; and

means for measuring the subject's ability to maintain the standing equilibrium position.

Claims 10-14 (cancelled)

15. (twice amended): A method for assessing a subject's ability to utilize support surface inputs from one of the subject's first and second supporting legs, such method comprising:

A. providing two support surfaces, and standing the subject on the support surfaces so that each of the two support surfaces has only one leg resting thereon;

B. fixing the support surface on which the first leg rests, so that it does not move;

C. permitting rotation of the subject's foot associated with the second leg as the subject sways; and

D. measuring the subject's ability to maintain an equilibrium position.